

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings of claims in the application:

**Listing of Claims:**

1. (Previously presented) A method of increasing the efficiency of transfection of cycling cells sensitive to electromagnetic radiation, comprising:  
synchronizing said cells by contacting said cells with electromagnetic radiation, wherein said electromagnetic radiation is a member selected from the group consisting of: Gamma rays, X-rays, and ultraviolet rays, and  
transfected said cells within about one cell cycle with a nucleic acid that encodes a desired gene product,  
wherein said efficiency of transfection is increased over cells not contacted with said electromagnetic radiation.
2. (Previously presented) A method of claim 1 wherein said electromagnetic radiation synchronizes cells at a stage of the cell cycle when the nuclear membrane is substantially degraded.
3. (Previously presented) A method of claim 1 wherein said electromagnetic radiation synchronizes cells at late S phase.
4. (Previously presented) A method of claim 1 wherein said electromagnetic radiation synchronizes cells at the G2/M phase boundary.
5. (Currently amended) A method of claim 1 wherein said electromagnetic radiation synchronizes cells at a stage other than a stage selected from the group consisting of: M phase, the late S phase, and the G2/M phase boundary and the nucleic acid accumulates in cells that have cycled to the G2/M phase boundary.
6. (Canceled)

7. (Previously presented) A method of claim 1 wherein said gene product is foreign to said cells.
8. (Previously presented) A method of claim 1 wherein said gene product is toxic to said cells.
9. (Previously presented) A method of claim 8 wherein said gene product induces apoptosis.
10. (Previously presented) A method of claim 1 wherein said nucleic acid is fully encapsulated in a lipid-nucleic acid particle.
11. (Canceled)
12. (Previously presented) The method of claim 1, wherein said electromagnetic radiation is X-rays.
- 13-45. (Canceled)
46. (Previously presented) The method of claim 1, wherein said cells are present within a mammal.